The Knoll at Middlebury College:
Food & Garden Educator's Report for 2019

Overview

The Knoll continues its commitment to exploring food as a medium to cultivate well-being in people, place, and the planet. We celebrated our interdependence and partnerships across our Vermont campus and community and beyond. There were nine academic collaborations, four major community engaged projects, and some 45 discrete events hosted.

Internships

Through the generous support of alumni gifts, earned income from the farm's sales, and support from the College, the Knoll was able to offer 15-week summer internships to four undergraduate students: Abby Dennis ’21, Rachel Hemond ’19.5, Ami Furgang ’20, and Tara Santi ’20.

Thanks to generous support from the Center for Careers and Internships, US resident summer interns received housing support for the FoodWorks portion of their summer internships. Each of the four summer interns chose to continue working at the Knoll during fall semester, demonstrating incredible commitment to the Knoll.

We also were fortunate to host seven other interns during the academic year, starting in the spring of 2019 and continuing through the fall. These included Anna Durning ’19.5, Bryn Hester ’22, Finn Lester-Niles ’22.5, Isabel Lubitz ’22.5, Kendal Pittman ’21.5, Magda Vidal ’22, and Emma Waugh ’21.5.

Educational Garden

The gardening season felt short this year; the spring saw cold and wet conditions later than typically expected, and the first frost event at the Knoll took place in early October. Our goal is to grow a mix of diversified crops using a variety of cultivation practices so the interns can learn how to grow many different types of vegetables, herbs, flowers, and fruits. As in previous years, we grew over 150 varieties of some 60 crops. We principally focus on fall crop production and the bulk of the garden is not planted until June.

Cultivating well-being includes celebrating the hard work and beauty of the garden’s bounty

We focused our efforts on the following commitments and community partnerships:

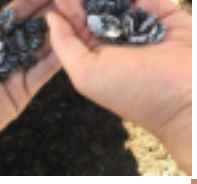
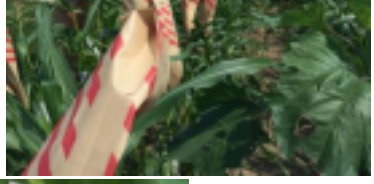
Midd Dining (Atwater Dining Hall): Our core group of crops we sell to Midd Dining (Swiss chard, kale, tomatoes, head lettuce, edible flowers, and herbs) had mixed success. This was a very challenging year for field tomatoes and this year's crop was decidedly poor. However, the greenhouse cucumbers and dahlias had incredible production in terms of volume, season length, and vigorous, healthy growth.

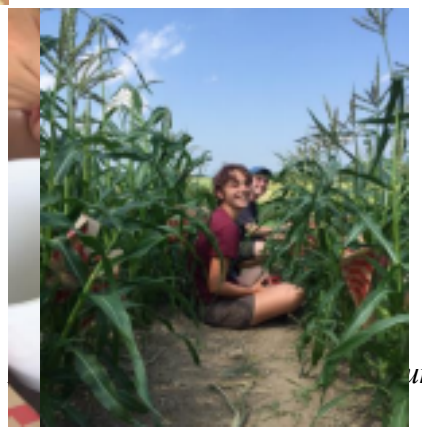
Middlebury Retail Operations (the Grille, Crossroads Café, Wilson Café, MiddExpress): Once the season came on, we harvested for weekly delivery to the Retail Operations kitchen based in McCullough. We took weekly deliveries of second-quality kale for use in smoothies at Crossroads Café, as well as a "basket of fun" with small quantities of mixed produce for use in ıd Wilson.

Poverty's Effects): As in past years, we arranged with HOPE to grow ement their gleaning efforts that supply the food shelf in Middlebury These totaled over a thousand pounds (principally butternut squash as garlic, carrots, green beans, onions, and cucumbers.

Garden to food shelf: the onion crop thrived in the consistent wet weather.

Chief Stevens of the Abenaki Nation: We were approached by Chief Stevens in the spring of 2019 as a collaborator for educational opportunities and for growing heritage varieties of Abenaki crops. With a goal of increasing seed stocks, interns grew four varieties of beans and carried out a hand-pollination project for an heirloom corn variety. The hand-pollination efforts required intensive observation and management, and this provided an incredible opportunity for learning. Chief Stevens joined the summer intern crew to share the Corn Mother and the Three Sisters stories, offered an Abenaki blessing on the fields, and offered song and a blessing at harvest. We are deeply grateful to Chief Stevens for sharing his time, knowledge, and traditions in setting the context for the planting of the corn and beans, as well as for the harvest and we look forward to carrying this partnership forward into successive seasons.



une Work Party; bagging corn tassels

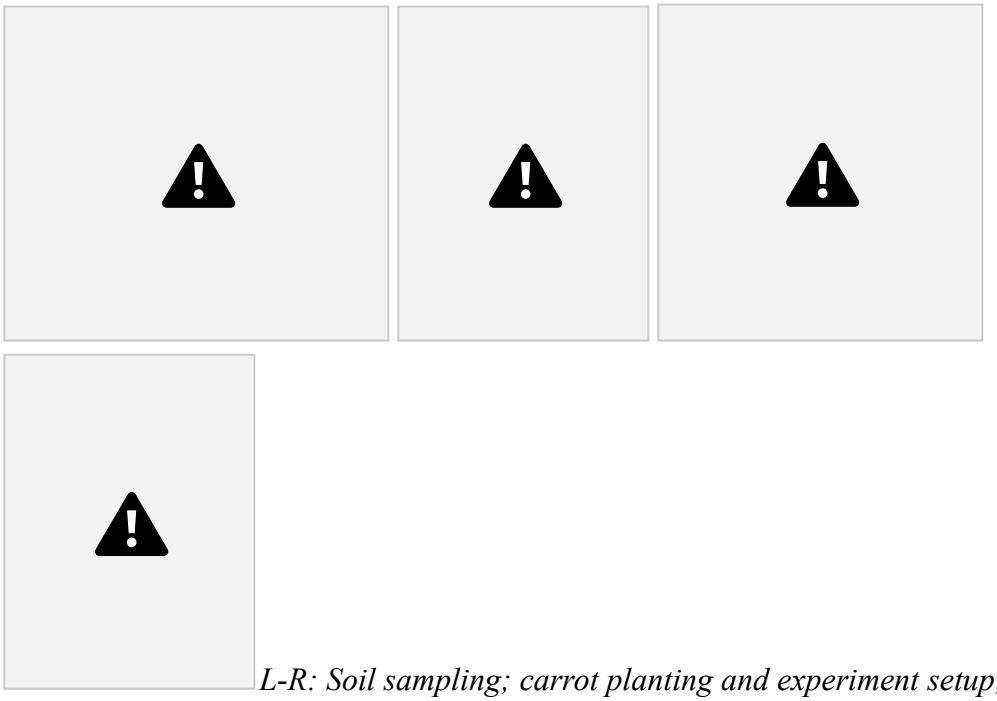
the hand-pollinations on trimmed silks

L-R: Jay and Chief Stevens joined us to celebrate and honor the harvest; grading harvested ears

Research for Natural Science and the Environment (ES 112) Class: For several years the Knoll has collaborated with faculty members to create research opportunities for students. As part of each course that uses the farm for research students have opportunities to put theory into practice. The research projects are generated by the focus of each course and needs of the farm to learn more about our unique physical location and microclimate.

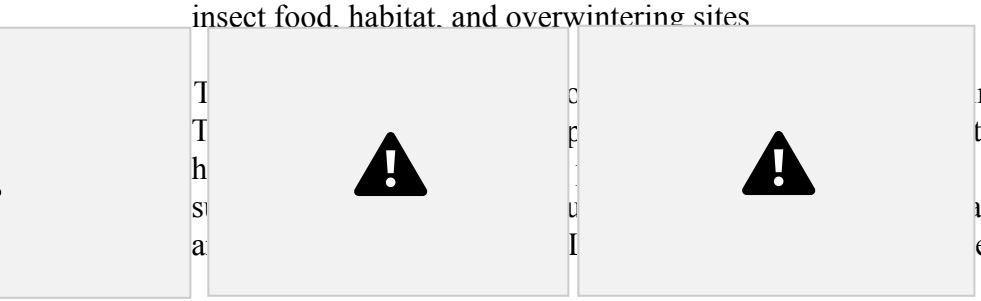
For the seventh consecutive year we hosted lab experiments for Kathy Doyle's four ES 112 lab sections. Student involvement is paramount in devising and carrying out these experiments: in the spring, interns drilled soil core samples for submission to UVM's soil testing lab and helped

prepare the experimental and control beds. Summer interns seeded two varieties of long-season carrots (Bolero and Purple Haze) in the experimental (Mikey) and control (Hopkins) beds to see if Regenerative practices, as implemented by local farmer Jon Turner, had an impact on total yields, percent survival, and "marketability" of carrots. Summer interns prepped, planted, and performed the maintenance, care, and documentation of the experimental beds, and academic year interns helped to harvest the remaining carrots after the experiment wrapped. After data was collected, the crop was divided and taken to Midd Dining and HOPE.



L-R: Soil sampling; carrot planting and experiment setup; ES 112 students collecting data

Cut-Your-Own Flower Garden: Once our annual flower crops come in, we invite the community to come and clip in the flower beds, and the garden saw a steady stream of visitors for this reason. We also cultivate perennial flower beds as insectary areas for pollinator and beneficial insect food, habitat, and overwintering sites.



T ning for catering and event use.
T t's fall Garden Party, which were
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a encement ceremony.

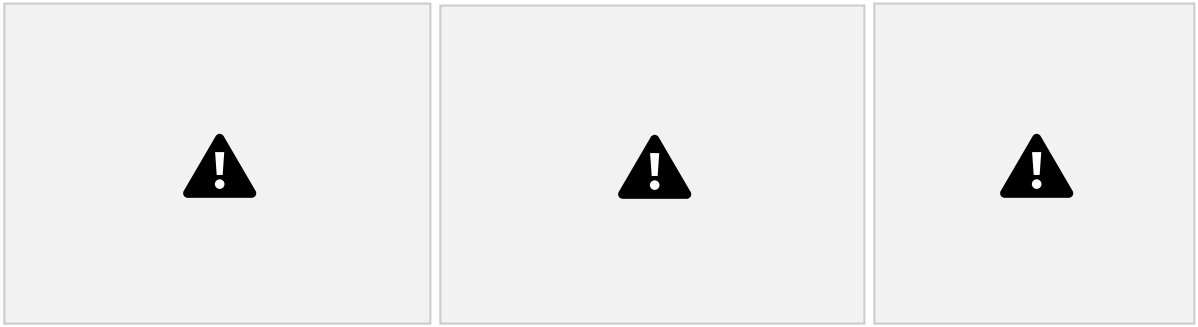
L-R: Glory in the field; ranunculus from the greenhouse; dressing up the Little Theater for BLSE

Graduation

The Perennial Turn and the New Perennials Project: Middlebury College and The Knoll received as a gift from the Land Institute fifteen silphium bare root transplants of *Silphium integrifolium* in the spring of 2019. Spring interns potted up the plants and tended them as they established root systems before FoodWorks interns transplanted them into two areas of the garden in mid June. The Knoll is a test partner in a pilot citizen-science experiment with the Land Institute, one of 18+ sites around the globe collecting data on and supporting efforts to domesticate *Silphium.* The Knoll is also privileged to have received a hundred live specimens of Kernza, an intermediate wheatgrass developed by the Land Institute. Special thanks to campus partners Bill Vitek, Nadine Canter Barnicle, and Marc Lapin as well as researchers at the Land Institute in Salina, KS, for their generous sharing of time, knowledge, and resources.

L-R: FoodWorks Interns planting silphium; garden volunteers planting Kernza with Bill Vitek

Installing the "Grazing Garden" and a new Perennial Flower Bed: Out of recognition for the lack of clear posted signage about where produce around the garden is destined, as well as our interest in having areas where visitors are invited to taste, dig, explore, smell, and experience, we built what we intend to keep as permanent raised beds in two of the larger bed areas on the western edge of the garden. It was designed and built by the summer intern crew and features concentric circles akin to the labyrinth and keyhole designs with a nod to permaculture. The Grazing Garden is posted so that it welcomes people to sample and harvest, and was warmly received this summer. The new perennial flower bed was designed to mimic the Grazing Garden, and we planted the first round of fall-planted tubers and bulbs in anticipation of abundant peony harvests in the next five years.



L-R: transplanting into the Grazing Garden; fall-planting of bulbs for the Perennial Flower bed

Other commitments: We grew at least 40 other crops for sales to smaller college venues. These included Weybridge House-- produce was used fresh or

preserved for winter use-- and to the Dolci student organization for use in a dinner featuring local food at the Knoll ("Knolci"). We also sold a small quantity of special items to Otter Creek Bakery in keeping with a long standing relationship with the Woods.

We rested two beds for the entire season (Drucker, Thoreau) in rotations of cover crop (principally an oat/field pea mix transitioned to winter rye) and We also grew garlic, shallots, black beans, cilantro, poppies, soybeans, and a number of other open-pollinated, self-sowing annuals from Knoll saved seed stocks.

The Knolci menu board, featuring Knoll produce

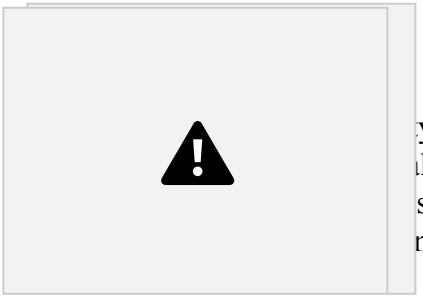
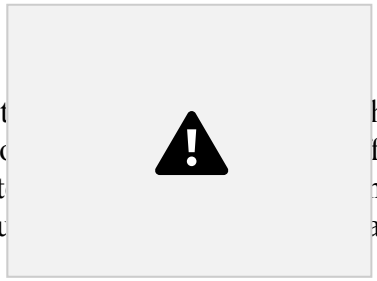
Special thanks goes to long-time garden friends Jay Leshinsky and John Derick for their continued guidance, presence, and infrastructure maintenance. We also wish to thank our colleagues in Facilities, Dining Services, Midd Catering, Events Management, Student Activities, Public Safety, and at the Midd Recycling Facility.

Other Community Involvement

Cornwall Elementary Garden Days: The combined 3rd and 4th grade class from Cornwall Elementary visited the garden for five consecutive weeks starting September 5th, running through October 3rd. This year the class had 21 students and was organized by teacher Mindy Harvey '13. During these full day visits, the class would volunteer for about an hour of garden work, hosted by Sophie Esser Calvi, Megan Brakeley, and interns Rachel Hemond, Tara Santi, Kendal Pittman, and volunteer Rachel Nahirny. Kendal and Rachel N satisfied their required community partnerships for their Environmental Education class through practice welcoming this group to the Knoll.

Addison Central Teens (ACT) and HOPE: We partnered again for a morning of programming with a group of teens from ACT's Summer Adventure Camp. We were joined by Gleaning Coordinator Lily Bradburn and Privilege & Poverty/FoodWorks Intern Isabel Lubitz '22.5. The group broke into small groups for icebreakers, a tasting tour of the garden, and then harvested produce to create a lunch of salad and homemade pizzas in the wood-fired pizza oven to learn about (and practice) garden to belly eating.

Staff & Faculty Well-Being Fair: One of the highlights of the interns' summer experience was tabling at the Staff & Faculty Well-Being Fair hosted in the Grille. Interns loved getting to meet staff and faculty members outside of their normal patterns, and to have a chance to visit. Interns harvested cucumbers, beets, radishes, and cases of swiss chard, kale, and collard greens, as well as zinnias, dahlias and other annual flowers to share.

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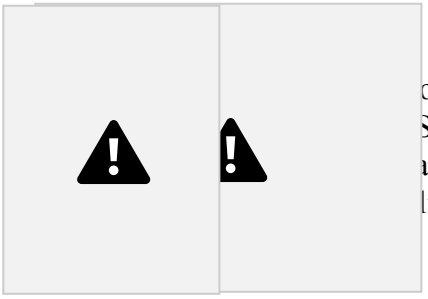
L-R: FoodWorks interns meet with Shelburne Farms' cheesemaker; the NOFA-VT Farmer Olympics at the Intervale Community Farm; learning about viticulture from Sara Granstrom '07

Through interns' participation in the 8-week Food Works program, summer interns also visited Shelburne Farms, the Elmer Farm, Treleven Farm and Wren's Nest Preschool, Bound Brook rice farm, and participated in the planting of our *Silphium integrifolium* plots with the New Perennials Project. When possible, we would incorporate volunteering at host farms to honor the reciprocity of business owners' generous time sharing, and interns loved learning from local experts about different practices and values.



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Sol wo hours sorting waste,
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L-R: checking the temperature on the College's compost; Monument Farms' calf barn; helping to harvest some 3000 lbs of onions while learning about Golden Russet Farm.

Classes, Research, Workshops, and Programming at the Knoll

The Knoll was host to many academic courses:

- Environmental Studies (ENVS 112, Natural Science and the Environment) experiment

with Kathy Doyle and Marc Lapin: We compared survival and yield of two carrot varieties in an experimental (Regenerative) bed treatment compared with the control, what we might consider "typical organic practices." Four laboratory sections for the introductory Environmental Studies course came out to the garden in late September to learn about the Knoll, dig carrots, gather data, and sample fresh carrots. Megan met with each class to introduce students to the Knoll and to help describe the methods of the experiment. (See photos in "Research" section.)

- Tracy Weston (Education Studies) hosted an Environmental Education course at the Knoll, using the various features of the site for twice-weekly class and lab periods throughout the entire fall season.

- Additionally, the following classes visited (and sometimes volunteered at) the Knoll: ○ "Feminist Theory and Environmental Justice" (Sociology and Anthropology), Erica Morrell
  - ○ "Introduction to Women's Resistance" (Sociology and Anthropology), Erica Morrell
  - ○ "Introduction to Food Studies" (INTD), Molly Anderson
  - ○ "Agroecology" (INTD), Molly Anderson
  - ○ "Environmental Problems & Behavior" (Psychology) Michelle McCauley ○ Environmental Justice/The Anthropocene (Environmental Studies), Daniel Chiu Suarez

- Scheduling conflicts and limited protected space prevented two other classes from meeting regularly at the Knoll. Despite the adequate facilities, interest in being in the space remains high.

Weekly Volunteer Hours in the garden resumed the first day of fall classes. In the spring, they were held: Mondays, Tuesdays, Wednesdays, and Fridays from 3-5pm (8 hours weekly). In the fall, Volunteer Hours were Monday, Tuesday, and Thursday from 3-5pm; and Tuesday mornings from 9-11:30am. In fall, we started the new tradition of Friday Work Parties from 1:30-4:30pm, followed by "Thank You Pizza" hosted by MCOF. During this drop-in time, students and other community members were able to participate in the days' garden tasks ranging the entire gamut of garden exploration and learning. Importantly, fall volunteers helped harvest and ensure commitments to our partners in Midd Dining and otherwise. Since the Knoll is unelectrified and does not have refrigeration, all produce deliveries must be delivered immediately. Over a hundred individuals gained experience and learned through volunteering in the garden.

Yale College Professor and Director of the LGBTQIA Resource Center, (and former Middlebury Commons Dean) Maria Trumpler, shared a presentation on "Recreating Paleolithic Breads" about ancient grains. She guided students in a hands-on experience grinding and then creating their own simple flatbreads baked in the pizza oven.

The Knoll hosted *Hermit Woods Trailbuilders* who led a workshop on dry stone-walling design and techniques to build a stone staircase that leads down to the pizza oven. Interns were involved with all parts of the process.

Sophie Esser Calvi, program director for Franklin Environmental Center, hosted a weekly *Koru meditation class* at the Knoll during the open fall season.

Other Events (in Chronological Order)

Events also open up the Knoll to a number of campus and community partners, and thicken our interdependent webs of relationships. It's a joy to welcome passers-by and groups to learn more about the history and practices of the Knoll, and this year continued the trend of the Knoll serving as a popular gathering place amongst diverse groups.

Two spring *MCOF Pizza Dinners* welcomed students from across campus to the Knoll for hand made wood-fired pizza from the oven. One of these was co-hosted by the Poor Form Poetry student organization and featured poetry recital, performance, and slam.

The *Middlebury Mountain Club (MMC)* hosted a *Diversity in the Outdoors* conversation at the Knoll.

A *"Sunset Soiree" for the sophomore class* was organized by the members of the SGA sophopmore committee. Over 150 students came out to enjoy a sunset, snacks, and bonfire.

The *Middlebury Intercultural Leadership Coalition (MILC)* student organization cluster hosted their spring MILC gathering for all org leaders and board members to celebrate a successful year of programming and advocacy.

Members of the Tavern (Omega Alpha) social house gathered in May with former interns at the Knoll to pay tribute to former house member Thibault Lannoy '20 and *to commemorate and care for Thibault's garden bed*. Tavern volunteers helped weed, edge, mulch, and plant annual and perennial bedding plants in Thibault's honor, followed by a pizza meal.

MCAB hosted a campfire at the Knoll to kick off the annual spring *MiddMayhem event*. The

Religious Life Cluster hosted their end of year meeting and gathering at the Knoll. The

Rowing team hosted their end of year gathering at the Knoll and took in the sunset views.

For *Reunion* in June the Knoll hosted two days of open houses with tours for alumni and families. The wood fired pizza oven was cooking both days and we served pizza tastings. Visitors explored the Knoll, walked the labyrinth, and spent time with the interns and Food & Garden educator. In the many discussions between alumni visitors and current students is the opportunity to connect past and present generations of Middlebury College students. We also welcomed the *45th reunion class* to the farm as the final destination of a TAM hike they had organized.

Interns welcomed educators from around the country participating in the *June Forum* to share about experiential learning integration at the College.

Interns also welcomed a group of chaplains who were gathered at Middlebury for a *NESCAC*

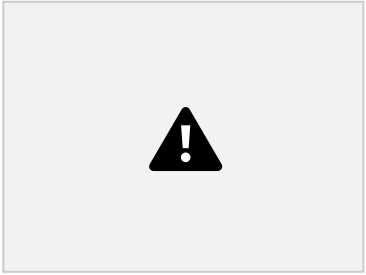
Chaplains' Gathering to share about the spiritual dimensions of their experience at the Knoll, and to walk the labyrinth.

The French School hosted a picnic and were greeted for a tour (in French) by summer intern Tara Santi '20. They also hosted a separate campfire event.

FoodWorks interns and internship hosts gathered for a meal to close the summer program.

Intern Ami Furgang '20 arranged for a pizza dinner welcoming the performers, choreographers, and instructors of the *LA Invasion (Dance Department)* to Vermont.

The *Communications and Marketing Department* held their annual pizza lunch as a part of their staff retreat.



Ten members of the *Panther Football Team* volunteered on a Saturday to turn the compost pile, spread mulch, and harvest flowers as a part of their team's annual pre-season community engagement day.

The *Volleyball Team* hosted their Welcome Back dinner with families at the Knoll.

The *MiddView* leaders gathered for a bonfire to welcome folks back to campus. The

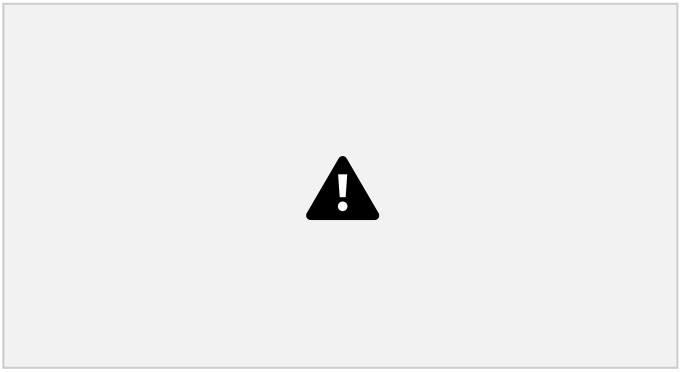
MiddSafe Advocates returned to campus early for training and made pizza at the Knoll.

The Knoll hosted a private *wedding* function as a pilot in late summer in collaboration with the Events Management department.

Peter Nelson and youth from the Congregational Church walked the labyrinth and gathered.

60 *First@Midd* first-year participants and peer leaders watched the sunset, cut flowers and toured the gardens, and enjoyed a pizza dinner at the Knoll as a part of their early arrival and orientation.

A group of *International and Transfer Students* who came for early arrival held an event.



An optional event welcoming first years to the Knoll during MiddView brought over 50 new students out to help harvest, weed, care for the garden, and take home a bouquet for their new dorm rooms.

The Knoll hosted a full day of garden volunteering and harvesting for a Sustainable Agriculture-themed *MiddView trip* for first year students. Interns helped ten first years harvest flowers from the garden for table arrangements for Midd

Catering to be used at the President's Garden Party. They also harvested produce, made their own dough, and prepared a harvest pizza dinner at the farm.

The *MCAB leadership* hosted a pizza dinner and training session at the Knoll.

The *Dolci* student organization used produce harvested from the Knoll to hold their second "Knolci*" event*.

The *Crew Team* hosted a Meet & Greet at the Knoll.

Community Assistants from the Residential Life team for Pearson's Hall hosted an event at the Knoll.

Megan's *Chicago Posse 5* celebrated their senior fall with homemade pizza baked in the oven and roasted garden vegetables and salad.

Fall Harvest Festival: The Knoll, the student organization MCOF, and the Middlebury Intercultural Leaders Coalition (MILC) co-hosted this year's fall harvest festival. The weekend coincided with Fall Family Weekend. This year's event saw perfect sunny fall weather and drew some 300 attendees, including family members, for the Friday event. MILC student organizations that participated included: ASIA, Vietnamese Student Association, Japanese Club, Project Pengyou, and MCOF. Activities included lantern making, riddles, taste tests of Vietnamese fresh rolls and fresh Knoll produce, cider pressing and tasting (visitors pressed 10 bushels of apples), labyrinth walking, enjoying cider donuts, and tasting pizza made by MCOF.

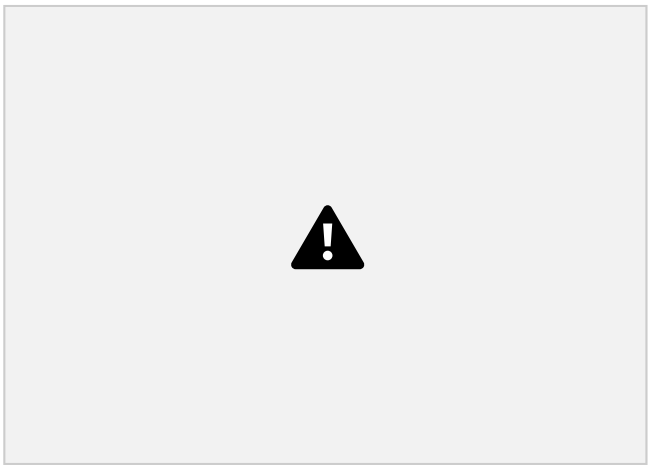
Fall Family Weekend: Many interested family members and alumni toured the Knoll. Former garden educator Jay Leshinsky generously shared his time at FFW Open House. Associate Chaplain and Muslim Advisor Saifa Hussein led a guided labyrinth walk on Friday.

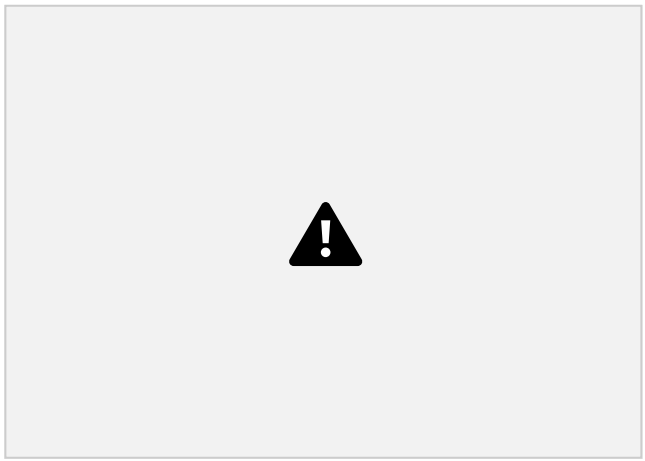
Tavern Social House (Omega Alpha) organized a second volunteer afternoon to help care for Thibault's bed and assist with other garden cleanup tasks.

Hillel sponsored a campfire event in late October.

Additional groups that hosted campfires this year included:

- Sister to Sister student organization
- MiddMayhem kickoff hosted by MCAB
- Biology summer researchers cohort
- Student Employment Office hosted two bonfires for summer employees •
  French School
- German School
- MiddPlay acting troupe





Drone photos courtesy Chris Spencer, Middlebury College. All other photos courtesy the author.

Prepared by Megan Brakeley, December 18, 2019